

LOUISIANA CONSERVATIONIST



Volume 3



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Number 6

Commissioners Discuss Game Regulations

Indications that more shotgun shells may be available for the next hunting season, that an easing up of restrictions may make possible a broader distribution of this ammunition, and that seasons and bag limits on migratory waterfowl for the 1945-46 season will be about the same as those which prevailed the last season, were features of the annual meeting of the Southeastern Association of Game and Fish Commissioners held at Atlanta last month.

Eight States, Louisiana, North Carolina, Arkansas, Georgia, Tennessee, Mississippi, Alabama and South Carolina, were represented at the meeting. Major James Brown, director of the Fish and Game Division, represented Commissioner John G. Appel at the meeting.

An election of officers resulted in the election of Hinton James of North Carolina as president; Major James Brown, Louisiana, first vice-president; Paul Mathes, Tennessee, second vice-president, and Charles N. Elliott, Georgia, secretary.

The U. S. Fish and Wildlife Service was represented by W. E. Crouch, chief federal enforcement officer; Al Day, Assistant Director; Fred Lincoln, Jim Silver, Dr. Watson, Bill Davis, Roy Moore and others.

Meeting in separate session, the representatives from the eight Southeastern states agreed upon several recommendations to be presented to the federal officials. These included a 4:00 o'clock closing hour for shooting instead of sunset; a change in the possession regulations to allow states to issue certificates allowing possession limit throughout the year in home and storage lockers, instead of the present 45-day possession regulations; a change in the regulations to allow shooting (Continued to Page 9, Column 2)



Among the many unsung heroes of the devastating floods in Louisiana were agents of the Wild Life and Fisheries Department, who for long periods of time, with very little rest, helped patrol levees, rescue families from inundated areas, protect deer and other game driven to higher ground, assisted engineers in recording soundings, and remained on vigilant 24-hour duty during the height of the flood crisis. Pictured above are a group of agents, with motor boats and the Department's 49-foot cabin cruiser, "PELICAN", who were stationed on Red River at Alexandria. Other Department equipment in use included the "FEROL", stationed on the Atchafalaya at Morgan City, and the "EAGLE", stationed at the Atchafalaya Spillway at Plaquemine. Numerous agents with motor boats were on constant duty in other flood areas.

DUCKS UNLIMITED MAP ENLARGED AND FAR-REACHING PROGRAM; RE-ELECT LOUISIANIAN AS LEADER

Appropriation of \$215,000 for use in field work in the Canadian breeding grounds, and re-election of A. C. "Pops" Glassell of Shreveport as President, for 1945, featured the annual meeting of Ducks Unlimited held in St. Louis last month.

Ducks Unlimited, now eight years old, has local committees in 34 of the 48 states, and has expended approximately \$960,000 since it came into existence. Most of the money has been used in creation of safe refuges on more than a million acres, construction of permanent dams and in fighting diseases among ducks.

It was pointed out at the annual

meeting that the estimated number of ducks in America has increased from 40 million in 1937 to almost 150 million this year, at a cost of approximately three cents a bird.

Other officers elected for 1945 include Robert A. Leeson, Boston, and Glenn L. Martin, Baltimore, vice-presidents.

Several Louisiana lakes have been constructed in the breeding areas, where drought and other ravages of nature once threatened the breeding of ducks.

In his annual address, President Glassell reported that during the past two years nearly as much

(Continued to Page 12, Column 4)

GI's Are Informed There Are Real "Wolves" in State

For the second time in recent weeks, the Department of Wild Life and Fisheries has been called upon to referee a debate between GI's chasing the Germans on the western front on the subject of Louisiana's wild life.

Several weeks ago the Department received a V-mail letter from a Yank in Germany requesting information on the shape of a muskrat's tail, which was promptly furnished.

A short time later, Pfc. G. B. Dunn, a Louisianian, from somewhere in Luxembourg, wrote the Department to inquire whether there are any black wolves in Louisiana. He stated that a G.I. from Michigan has made a wager of a month's pay that there are no such animals in Louisiana. Pfc. Dunn wrote that he knew there are wolves in Louisiana, because he has heard of them.

Major James Brown, director of the Fish and Game Division, informed Pfc. Dunn that he is correct, that Louisiana does have Black Wolves. "In the Singer Preserve in Madison and Tensas Parishes, we have the last remaining specimen of the Black Wolves on this continent", the Yank was informed. "In this same area and also in other sections of the State, we have the Grey Wolf. This record of the Black Wolf in Louisiana can be verified through the U. S. Fish and Wildlife Service, Department of the Interior, Washington, D. C.", Major Brown wrote.

"You can tell the G.I. from Michigan that we have deer, bear and cougar in many of our areas here in Louisiana", the Department's communique continued. "Very few people realize that in the vast swamps and river bottoms of Louisiana, we have several of the species of game that have now become extinct in most sections of the country."

JIMMIE H. DAVIS
Governor of Louisiana



JOHN G. APPEL
Commissioner

LOUISIANA CONSERVATIONIST

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ROUND-UP OF WILD LIFE AND FISHERIES ACTIVITIES

The 1944-45 trapping season is now history, and final figures for the trapping industry in the state will probably show a decline of 30 to 35 per cent both in value and catch under the previous season. Unseasonable warm weather is largely blamed for this reduction.

Sales of furs from state owned game preserves this past season reflected the general state-wide decline both in value and catch. In four public sales of furs the Department of Wild Life and Fisheries realized a total of \$241,358.98, which was \$187,931.13 less than the total received last season.

Trappers participating in the catch receive 65 per cent, while 35 per cent goes to the fur and refuge fund of the Department. The trappers this year received a total of \$156,883.20, while the Department's share was \$84,475.78.

Illegal game confiscated by agents of the Wild Life and Fisheries Department are turned over to hospitals and charitable institutions. With the meat situation being what it is, this confiscated game serves a useful purpose when given to patients of these institutions.

Typical of the comments received by the Department is this letter received by an official of the Department from the superintendent of the Shriners' Hospital for Crippled Children located in Shreveport. The letter reads as follows:

"I want to thank you and each member of the Wild Life and Fisheries Department who so kindly sent us the nice deer. You were indeed, kind and thoughtful

to remember our hospital in this way and I assure you the children and everyone have really enjoyed it. It was the tenderest and most delicious meat we have ever had."

Although records for the 1944-45 hunting season will not be available for some time, there is every indication that the number sold this current season will exceed the 94,609 hunting licenses sold during the 1943-44 season. Of the hunting licenses sold last season, 1,275 were to non-residents, and 93,334 were to residents of Louisiana.

While on the subject of licenses, records in the Department show that a total of 36,102 angling licenses were sold in 1943. Records for 1944 have just started coming in to the Department and are not as yet complete. Of the 36,102 angling licenses sold in 1943, a total of 29,492 went to residents of the state and 6,610 were sold to non-residents.

For those who like statistics, here is some "homework." Orleans Parish led the state in the sale of resident hunting licenses during the 1943-44 season, with a total of 6,342 licenses sold. Next in line came Calcasieu Parish with 6,278 resident licenses; East Baton Rouge Parish with 5,778 resident licenses; Caddo Parish with 5,248 resident licenses, and Rapides Parish with 5,114 resident licenses.

Calcasieu and Cameron parishes in Southwest Louisiana led the State in the sale of non-resident hunting licenses during the 1943-44 season. Calcasieu

Parish sold 307 of these non-resident licenses, while 292 were sold in Cameron Parish.

In the sale of trapping licenses for the 1943-44 season, Terrebonne Parish led the State with a total of 875 such licenses sold. Next came Lafourche Parish with 544 trapping licenses, followed by Cameron with 540 licenses and Vermilion with 407 trapping licenses.

Dr. James N. Gowanloch, chief biologist of the Department of Wild Life and Fisheries, has received an army request for six pairs of Jumbo Louisiana bullfrogs to be used to stock a pond being constructed on an island base for the U. S. Army. The base is said to be high classified so no recognition as to the locality where the frogs are to be placed can be given. Dr. Gowanloch was informed that as soon as the veil of security is lifted, full credit will be given the Department for supplying the bullfrogs.

The 1945-46 Federal Duck Stamp, which will go on sale at all first and second class post offices on July 1, will carry as its central design an illustration of two male and one female shovellers in full spring plumage. The original sketch in black and white water color, is the work of Owen J. Gromme, Curator of birds and mammals at Milwaukee Public Museum, Milwaukee, Wisconsin.

All migratory bird hunters over 16 years of age are required by law to purchase duck stamps, which sell for \$1.00 each. Ninety percent of the resultant income is used to supplement other funds for the acquisition and maintenance of waterfowl refuges throughout the country. The remaining 10% is used for the printing and distribution of the stamps and other activities.

Summer Course in Conservation at LSU Starts June 8

A special nine-week summer course in conservation of natural resources, especially intended for teachers and others interested in conservation, will be held this summer at Louisiana State University, beginning June 8 and continuing to August 11. Classes will meet at 1:00 p.m., Mondays through Fridays.

The course will carry a credit value of three semester hours. Among the subjects to be included in the special summer course are the following:

General survey of the field of conservation; Soil conservation; Conservation of Mineral Resources; Game and Fur resources; Forestry conservation; Bird conservation; Fish and Fisheries.

Further information and details may be obtained from the Registrar at Louisiana State University.

FIELD AUDITORS CHARGE ILLEGAL FUR BUYER

Anthony Fernandez, fur buyer, who resides at Shell Beach near New Orleans, entered a plea of guilty last month in federal court in New Orleans to charges of selling furs without a resident dealer's license and to shipping furs out of the State without paying the severance tax on the furs. He was placed on probation for five years.

The case was uncovered through the vigilance and activity of the field auditor's division of the Wild Life and Fisheries Department. Specifically Fernandez was charged with shipping 92 muskrats and 9 mink pelts to a concern in Dallas without paying severance taxes on it, and without legal authority since he had not purchased a resident dealer's license.



Featuring the Trappers' Ball each year is the election and crowning of a king and queen. This year's royal couple, queen, Miss Nola Broussard of Abbeville is receiving her crown from Governor Jimmie Davis, while the king, trapper Paul Broussard of Maurice looks on with Mrs. Jimmie Davis.

LOUISIANA TRAPPERS' BALL

The trapping season of 1940-41 marked the beginning of a new era for trappers of Louisiana. That season marked the elimination of carelessness in management, and trappers came into their own and began to reap the harvest of their labors. Their pay on fur pelts trapped on state-owned game preserves was increased to an all time high of 65 percent with 35 percent going to the State.

At the end of that 1940-41 season, the trappers realized more money than ever before in their history of trapping on State-owned lands. Since that time many of them have become financially able to build their own homes, remodel old ones, provide better clothing for their families and generally improve their economic conditions.

At the end of that historic 1941 season, the trappers celebrated with a Ball. In five short years, the Trappers Ball has become a unique annual event in Louisiana's trapping circles. Somewhat somber by the war, perhaps a little less gay, but not lacking in color, the Trappers Ball continued this year for the fifth consecutive time, and in time may well become another traditional institution in a State that is famous for its unusual customs and traditions.

PHOTOGRAPHS BY EROL BARKEMEYER



First Lady of Louisiana, Mrs. Jimmie Davis, is presented with fur coat made from selected muskrat pelts. Making the presentation on behalf of trappers is former State Senator J. I. Boudreaux.



Trappers and their friends celebrate the end of another successful trapping season.



Wild Life and Fisheries Commissioner John G. Appel tells trappers that they have received \$840,252.09 for their catches during the past five seasons on state owned game preserves.

Fly Casting, The Easy Way

By John Alden Knight

Year after year the outdoor magazines have spent a great deal of time and considerable wordage, explaining how and where to catch more and more fish. As the new methods are outlined and developed, we learn that the fly rod plays an increasingly large part in these innovations. Strangely enough, very little—far too little—has been written concerning the correct and effortless handling of this deadliest of all angling equipment.

For some reason or other, the average man—or woman—rarely takes the trouble to find out how to handle a fly rod so that he or she can get the best results from the effort expended. Just for fun, count up the good fly casters among your angling friends and acquaintances; the ones who make a fly rod do for them exactly what they want it to do, both in distance and accuracy, regardless of position or cramped quarters. Our guess is that you can count them on the fingers of one hand and have room to spare. This despite the fact that it is easier to cast correctly than it is incorrect.

The Correct Grip

Perhaps the best way to approach the problem is to begin at the beginning. Ninety-nine out of any hundred anglers do not hold a fly rod correctly. It is natural to grasp a fly rod as you would pick up a hammer, handle against the palm and held there by the fingers, with the thumb on top—that is, in line with the application of power as you strike the head of a nail. And that may be all right for a hammer. Not being a carpenter, I'm not sure. But it isn't all right for a fly rod.

Years ago the bait casters learned that great accuracy and

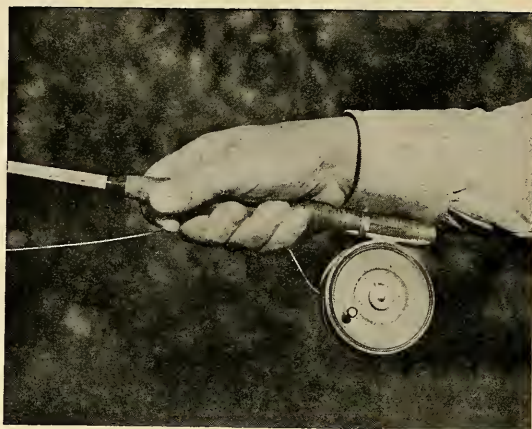
ease of casting could be attained by holding the reel at the left side of the rod, handles up, so that free, unhampered use of the wrist could be employed. Why not apply this sound reasoning to the fly rod? When you consider that the average day of dry-fly fishing entails the making of five or six thousand casting motions, surely it is logical to strive to obtain the maximum of comfort and performance from the minimum of effort. The answer lies, primarily, in holding the rod correctly.

As you read this, pick up any object that is handy, such as a pencil or a fountain pen, that can serve as an experimental rod grip. Now, open the right hand and

Editor's Note: The author of this interesting and instructive article is a well known Pennsylvania sports-writer. The article first appeared in the *Pennsylvania Angler* and later in the *Missouri Conservationist*. We acknowledge with thanks permission given us by the author and the two mentioned publications to reprint the article for the benefit of Louisiana sportsmen.

The cuts accompanying this article are used through the courtesy of the *Missouri Conservationist*.

place the "rod grip" against the heel of the index finger and the heel of the hand, diagonally across but not touching the palm. Next, place the side of the thumb, near the nail, against the "grip," thus supporting it between the side of the thumb and the side of the second joint of the index finger. Now close the hand so that only the tips of the three remaining fingers serve to lend additional



The Free Wrist Grip. This is the comfortable and correct grip of the fly caster.

support. A glance at the illustration will show you what is meant by the foregoing.

Now, execute the motions of fly casting, remembering to have the palm of the casting hand **always facing the direction of the cast**. You will find that the wrist will be free enough to permit the complete casting motions without any aid from the forearm. If you hold the hand a bit to the side instead of in front of the body, that makes the casting motion still more comfortable.

Just for comparison, hold the improvised "rod grip" in the "hammer-handle" style, executing the casting motions so that the thumb travels in the plane of motion of the cast. Without moving the forearm, you will be surprised to note how quickly the wrist will lock, impeding further motion. Having done this, go back to the correct grip again and see the difference.

When all is said and done, fly casting is what our high school physics book called "simple harmonic motion." And the same rules apply. To obtain maximum efficiency from applied power, apply it in the direction of the motion it is intended to create.

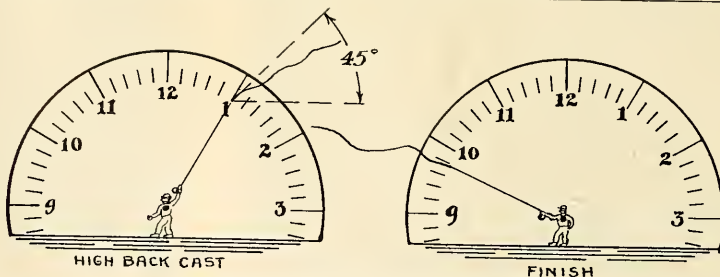
That's only plain common sense. And it fits right into the jig-saw puzzle of fly casting.

The High Back Cast

With this in mind, take your fly rod out on the lawn—or any place where there is enough room—and rig it with line and reel. Now, holding it correctly, strip about twenty-five feet of line from the reel and cast it out on the grass in front of you. Holding the rod just below the "ten o'clock" position (see accompanying sketch) with a **gradually accelerated motion**, ending with a flip of the rod tip at "one o'clock," toss the line into the air behind you so that it will extend out more or less straight from the rod tip at an angle of about twenty-five or thirty degrees **above the horizontal**. The best way to make sure that the back cast goes where you want it to go is to turn your head and watch the line as it travels to the rear. For the time being, don't concern yourself with the forward cast. Learn to throw the high back cast until you can do it perfectly every time. If you do this, repeatedly, time after time, until you **know** you can do it without fail, you will learn several valuable things about fly casting.

Timing

First, you will learn the "feel" of your rod as it goes into action, first the middle section, then the tip. Second, you will learn to know at all times the exact position of your line in the air behind you, merely by the "feel" of your rod as you execute the back cast. Last, and by far the most important, you will learn how long it takes for your line to straighten



The proper arc of the fly rod during the cast.

itself behind you. In this way, and in this way only, will timing, that 6th sense of fly casting, become almost second nature to your casting hand. Once you have mastered timing, there is nothing to prevent you from becoming a good caster. Until you master it, believe me when I say that you can never become a good fly caster. And you can learn timing easily, simply by watching your back cast. As easy as that.

It might be helpful to take a quick look at the reasons underlying the foregoing instructions, otherwise they may sound somewhat on the dogmatic side. They are never meant to be so.

With the free-wrist grip, I am sure that you will find casting more comfortable and less tiring. In addition, this manner of holding the rod makes throwing the high back cast ever so much easier.

The reason for the high back cast is quite logical. The moment that the line, impelled by the rod tip, begins its journey to the rear, the force of gravity asserts itself and the line begins to fall. Not fast, but it falls just the same. It continues to fall every instant it is in the air behind you. It is still falling even after you start the rod forward to apply power to the forward cast. Thus, your line is approximately in line with the rod tip when final power is applied. In this way the forward impulse exerts itself directly in line with the motion of the cast. Maximum efficiency — minimum effort. You see, it makes sense after all.

More than that—if you make your back cast correctly, it is practically impossible to throw a bad forward cast. Try it and see if I'm not right. Throw a high back cast and watch it to make sure that it goes where you want it to. Then try to throw a bad forward cast. You will find that it requires a distinct effort on your part to make your forward cast anything but a good one if the back cast has been made the way it should be made. Conversely, it is difficult and often impossible to throw a good forward cast after making a bad back cast.

You will be wise not to concern yourself too much with the forward cast until you have perfected the high back cast. After that the forward cast almost takes care of itself. As with the back cast, gradually accelerate the forward motion of the rod, throwing the tip into the finish, and stopping the rod slightly below the "ten

o'clock" position. Better results will be had if you aim the cast at a point in the air about two feet above where you wish the fly to fall.

In conclusion, let me remind you to relax as much as possible while casting, otherwise fishing becomes hard work instead of pleasure. Hold your casting hand out to the side a bit instead of in front of you and let your casting arm do what it will to find greater comfort and ease. The book-under-the-arm, elbow-to-the-side school of fly casting was outmoded in the horse-and-buggy days. By all means raise your casting arm if you wish and if it helps your casting. But believe me, you won't become a good caster until you master timing. You will master that more quickly if you learn to throw the high back cast correctly. And by using the free-wrist grip, you can perfect yourself in the high back cast quite easily and, while doing so, learn to relax your hand and arm in the process. The jig-saw puzzle of good fly casting fits itself together, one piece dependent upon the other to complete the picture.

Good fishing, and keep your back cast high.

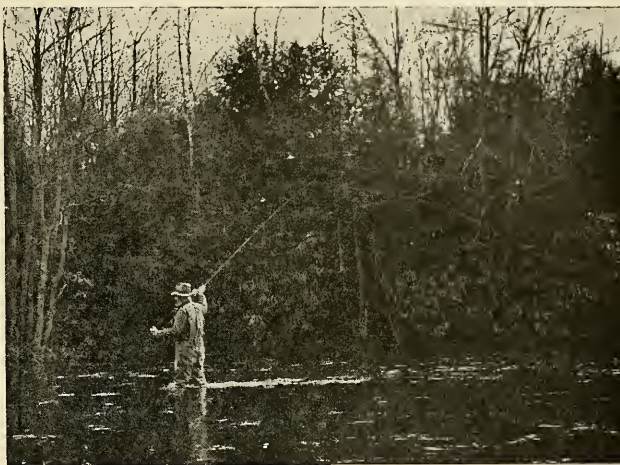
Decline Shown in Hunting, Fishing Licenses for 1944

A preliminary statement issued by the U. S. Fish and Wildlife Service reveals that a combined total of 15,308,264 hunting and fishing licenses was issued by the various states during the year ending June 30, 1944. This represents a drop of approximately 5% from the preceding year. Revenues from 1943-44 sales, however, came to \$23,367,772, a decrease of less than 1% from 1942-43 totals.

Comparative figures for license sales in each of the two classifications (hunting and fishing) were given as follows:

Hunting Licenses		1942-43	1943-44	Decrease
Number		8,080,678	7,483,058	7.4 %
Revenue		\$13,576,388	\$13,538,606	.3 %
Fishing Licenses		1942-43	1943-44	Decrease
Number		8,022,674	7,825,206	2.5 %
Revenue		\$10,024,329	\$ 9,829,166	1.9 %

The Service also reports a total of 1,169,352 Federal Migratory Bird Hunting Stamps sold during 1943-44 season as compared with 1,383,629 for the preceding season, a decrease of 214,277 or 15½ %.



Faulty back cast—too low. A good back cast makes for a good forward cast. Below, a high back cast in correct form.



Finish of the forward cast. The author is doing the casting.



CONSERVATION EDUCATION

4-H Club Boys Natural Resources

For three days and nights the boys undertook a comprehensive conservation education. During the trip they observed and studied migratory bird life, commercial shrimp and oyster operations, drilling operations; they visited oyster camps to see how commercial fishermen catch oysters. They listened to lectures from Dr. Peter Dourdoft and saw motion pictures on oyster culture at the Educational Division of the Department of Agriculture.

The occasion was the special conservation education trip sponsored by the Louisiana Department of Game and Fish Commission, the Louisiana Department of Conservation Service and the Department of Agriculture in cooperation with the Humble Oil and Refining Company and the Sulphur Company. Participating in the trip were thirty-two 4-H Club boys of St. Charles Parish as reward for meritorious service during the past year.

County Agent W. E. Smith was in charge of the educational part of the trip. Mr. St. Charles Parish superintendent of the district superintendent of the district.

Pictures on these pages taken by the photographer record some of the things the boys observed and featured this conservation education trip.

PHOTOGRAPHED BY

Group observes shrimp trawler at work. Boys in boats observe operation.



Dr. Peter Dourdoft, biologist of the Wild Life and Fisheries Department (fourth from left), explains life history of the oyster to group of 4-H club boys.



One of the 4-H club boys examines nest and eggs of Louisiana Heron. Other bird life were also observed and studied. Among other birds seen by the group were Gulls, Terns, Mottled Ducks (summer mallards), who nest in the State, and flocks of Blue Wing Teals, one of the last migratory waterfowl to leave Louisiana.



Commercial phases of the oyster industry were studied. In the photo at left an oysterman demonstrates the use of oyster tongs in harvesting oysters. Boys in the boat are members of the 4-H club group, while the others observe the operation from nearby oysterman's camp.



Study Louisiana's Forces on Field Trip

month, a group of 4-H Club and intensive course of conservation-packed days, they saw observed methods of commercial fishing; they inspected and studied oyster and shrimp mines; they were shown their activities. At night life and conservation experts on education subjects, furnished by the Wild Life and Fisheries Department.

annual tour of coastal and inland areas by the LSU Agricultural Experiment Station of Wild Life and Fisheries, the Humble Oil Company and the Freeport Sulphur Company. The three-day field trip was in St. Charles Parish, selected for the trip in 4-H club projects during the summer.

of St. Charles Parish was the trip, assisted by A. A. Songy, superintendent of schools, and A. L. Chesney, manager of the Humble Oil Company.

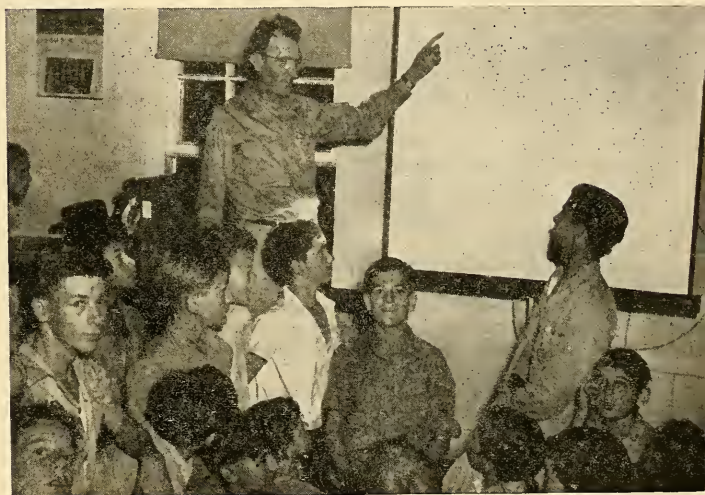
by a Wild Life and Fisheries Department. The important activities which were shown on the project.

GRAPHS BY EDOUARD MORGAN

viewer (at left) and fishermen haul in trawl net containing oysters which were later explained to them in detail.



John Campbell, Wild Life and Fisheries biologist, points out nesting colony of the Louisiana Herons located on Bird Island near Barataria Bay.



County Agent W. E. Simmons of St. Charles Parish, points to screen on which were shown motion pictures on conservation furnished by the Educational Division of the Wild Life and Fisheries Department. Motion pictures on sulphur operations furnished by the Freeport Sulphur Company, and on oil furnished by the Humble Oil Company, were also shown.

The three speed boats in the above picture, furnished by the Humble Oil Company, were used to transport the 4-H club group and instructors along the bayous and other waterways of coastal Louisiana. Visits were made to Bird Island, Manilla Village on Lake Washington, to study oyster and shrimp operations; Port Sulphur to visit sulphur mines, and Delta Farms to inspect drilling operations.



POVERTY OR CONSERVATION---Our National Problem

PART III

By Jay N. "Ding" Darling
Honorary President, National
Wildlife Federation

(Continued from March Issue)

Local Chambers of Commerce and Congressmen still rush the doors of the Treasury for millions to build dams which will produce \$25,000 worth of electricity a year but destroy nine million dollars worth of natural income and throw thousands out of employment. It has been done recently.

A slaughter-house or a paper mill may employ 100 men and increase the local bank clearings to the gratification of the city fathers, but at the same time destroy the livelihood of 500 families down-stream through pollution of the once productive waters.

"Reclamation projects" may (and have done so time without number) spend tremendous sums for irrigation and find that they have robbed Peter of a fortune to pay Paul a pittance.

Such hastily promoted projects, instigated for quick profit and exploitation, are seldom preceded by even a gesture of scientific investigation to determine in advance what the consequences may be to the people of the country as a whole. Because the simple principles of Nature's laws are not a part of the average man's learning, there is no one to protest. What is even more lamentable, the average understanding is so low that they do not even know they are being hurt until the sledge hammer falls. Congressmen, army engineers, most governors, state legislators, and all known mayors and county supervisors are as oblivious to the import of conservation principles as Adolf Hitler is to truth and human justice. That makes its almost unanimous, and yet the fundamentals are as easy to understand as the fact that long grass will gather and hold more snowflakes than short grass and hence provide more moisture in the soil for the next season's crops.

I could tell you of an experimental area of 35,000 acres of land which ten years ago had not a spear of grass visible, wherein seven flowing springs had gone permanently dry and life was practically extinct. That same 35,000 acres is now knee high with lush vegetation, the seven springholes are again full of water the year 'round and a thousand

head of cattle could be fed without over-grazing. It didn't take any fertilizer. It didn't take any 25-million-dollar irrigation project to restore it to production. Only an application of the simplest principles of conservation management.

The obvious and simple practicability of Nature's methods turn out to be man's best aids. It did take scientists—and good ones—working diligently over a period of many years, to provide the proof that the principles of conservation would work, and why. It is too much to claim that the subject has been scientifically exhausted. It hasn't, but a great deal more is known than is being taught or applied and the scientific research is a long way ahead of the procession.

Let us see if we can outline a few conclusions which will fix in mind the objectives of conservation and the processes which are essential to its accomplishment:

1. No nation can permanently endure which consumes its natural resources faster than Nature, with scientific aids, can replace them.

2. Conservation is the science of greatest possible production without diminishing the source materials.

3. Conservation seeks by the application of the natural laws to provide methods by which perpetual production may be substituted for destructive exploitation.

4. Conservation is the exponent and advocate of careful scientific study and diagnosis before major operations are performed on our basic economic mechanism.

5. It is essential that whenever Nature's productive balance is invaded that adequate replacements or equivalent substitutions be provided as insurance against diminishing returns.

6. It is a primary requisite of conservation that no project which makes use of natural resources is justified whose costs to the people of this nation are greater than the local profits.

All these seemingly axiomatic precepts are, as a matter of fact, just another way of saying that you can't feed and clothe more and more people on less and less productive resources. The repetition of this axiomatic fact is intentional. To the newcomers who approach these more serious aspects of conservation for the first time, the emphasis on food production to the neglect of mineral

resources may cause some questioning which should be answered here.

Resources by Nature are divided into two classifications: those which are renewable by human efforts and those which by Nature are not renewable. In a measure, all organic resources are renewable. Forests can be replaced by reforestation; grasses and surface vegetation if destroyed can be replanted. Furs of wild animals can be replaced by wool from domestic animals or textiles made from vegetable matter. Depleted animal life can be renewed by scientific breeding and restocking. Even soil depletion can be, in a measure, renewed under advantageous conditions by prescribed vegetation management.

On the other hand, the mines which produce our inorganic or mineral resources such as silver, aluminum, iron, tin, zinc and kindred elements cannot be restocked. They are therefore classed as non-renewable resources. There are, to be sure, dangers which threaten serious inconvenience if by mismanagement and waste our stocks of essential minerals run short, but these hazards concern industrial production rather than the essentials to sustain life.

I venture to say that no one would like to contemplate living in this modern world without the conveniences provided through industrial production. If that is bad, think how much worse it would be to live in a world from which the supply of food, fuel and clothing had been exhausted. Hence the emphasis on "renewable" resources, for if you do not "renew" your "renewable" resources you won't have any use for the "non-renewable" anyway. King Midas found that out when everything he touched turned to gold and he could not eat.

Considering the almost unlimited possibilities for substitutions in the field of minerals and inorganic, unrenovable materials, we can say with considerable degree of confidence that there will be no "bottleneck" in the long run of metals for industrial needs and human requirements, at least in times of peace.

It is unfortunate, however, that in the process of producing substitutes for metallic materials, an extra strain is put upon the organic sources of materials, where the real bottleneck is located.

Running through the whole scale of new plastic materials—

Rayon, Nylon, Lucite, Pliofilm and the Bakelite group, to mention only a few—the constituent elements are chiefly of organic origin, and every known organic substance, living or dead, has come and must continue to come through that single agency of green leaf chlorophyll plus sunshine. If there were any virtue in wishing, we could wish that our alchemists would pick on something besides carbon to transmute into mineral substances. Everybody wants to use carbon for something or other, and no one has ever been able to make any.

In the field of heat, energy and power production, there is no fuel which is not of organic origin, with the possible exception of mineral oil, whose mysterious origin has not been satisfactorily proved. Both coal and oil must be classed among the non-renewable resources and any substitutions must come from the organic or vegetable family. Synthetic gasoline, the alcohols, and all combustibles are made from organic matter. Then add further to the strain on the organic bottleneck all the foods we eat (whether animal or vegetable), all the textiles, linen, cotton or wool, all the millions of tons of paper used daily, all the gunpowder, cigarettes and feathers on women's hats. To put all expended energy also in the list would involve some duplication, but its drain upon organic resources is so vast a daily item that it should not be neglected in the comprehensive concept. From the tiniest flip of a fish's tail to the throbbing engines of the largest steam turbine in the world, every move burns up, directly or indirectly, some of the organic matter laboriously produced by the minute green cells in leaves.

Picture then in your mind, if you will, this vast army of human demands lined up like a breadline before a soup kitchen and waiting to be served by that sole producer of relief rations, the green pigment in vegetation, and you will get a new conception of what a "bottleneck" means. There is no other source. Without green vegetation there is no chlorophyll. Without soil and water there is no vegetation. Every grassy plain or forest denuded of its vegetation and every marsh drained of its water by man's wasteful practices constricts the bottleneck. Every careless farmer who by negligence allows the topsoil to

(Continued to Page 12, Column 1)



TYPES OF VIOLATIONS WHICH OCCURRED DURING APRIL

Angling Without License.....	10
Possessing Undersized Frogs.....	1
Possessing Over Legal Limit Game Fish.....	1
Possessing Game Fish—Closed Season.....	2
Commercial Fishing—No Li- cense.....	1
Possessing Undersized Crabs.....	25
Possessing Undersized Shrimp.....	1
Possessing Shrimp — Closed Season.....	1
Possessing Shrimp Trawler— Closed Season.....	13
Hunting Migratory Water- fowl—Closed Season.....	1
Hunting Deer Out of Season.....	3
Hunting Rabbits Out of Sea- son.....	1
Hunting Turkeys Out of Sea- son.....	1
Hunting Frogs Out of Season.....	2
TOTAL.....	63

PARISHES IN WHICH VIOLA- TIONS OCCURRED DURING APRIL

Assumption.....	1
Bossier.....	2
Caddo.....	4
Calcasieu.....	1
Catahoula.....	1
Claiborne.....	1
Concordia.....	2
Franklin.....	1
Jefferson.....	36
Lafourche.....	1
Livingston.....	1
Orleans.....	1
Pointe Coupee.....	3
St. James.....	1
St. Landry.....	1
St. Mary.....	1
Tensas.....	1
Vermilion.....	2
Vernon.....	2
TOTAL.....	63

A muskrat (musquash) can travel as far as 50 yards under the water without coming up for air. His fur is nearly as fine and dense as that of a beaver. When treated and dyed it may be known as Hudson Seal, Wallaby, Velvet Coney, River Mink, Sealskin and a number of other trade names.

Commissioners Discuss Game Regulations

(Continued from Page 1)

from a power driven boat when the boat was within a blind and the engine not in operation. The officials also recommended an earlier opening split season on doves to begin October 1st, instead of October 15th as last year, and another season for as many days as the federal authorities would permit with the closing date on January 31st, instead of January 20th as last year. Likewise an increase in the bag limit on doves from 10 to 15 was recommended. Also recommended was an extended duck season to extend from November 2nd through January 31st instead of through January 20th as last year.

Louisiana also requested an open season on snipe, but none of the other states in the Southeastern region were interested in an open season on this species, since they reported that they had practically none in their states.

Meeting in session later with federal officials, the recommendations of the Southeastern states were presented. On the proposal that shooting hours be changed to close at 4:00 o'clock instead of sunset, the Southeastern group was informed that in many sections of the country from 4:00 o'clock to sunset was a period of the day in which the waterfowl did a great deal of damage to crops, and federal officials intimated that they could not permit such a

AGENTS PARTICIPATING IN APRIL ARRESTS

Cliff Andrus, Angelo Benandi, John Busalacchi, Less Davis, G. W. DeLoach, C. E. Enright, D. L. Farrar, John E. Foolkes, Cecil Gilmore, Bill Harper, Lesma Hebert, Clarence Hood, Wm. M. Jones, W. A. Lee, T. E. Minton, B. E. Parker, A. Perry, Robert Pertuis, Armand J. Petit, W. J. Plattsmier, P. S. Reardon, Cliff Reeves, Allen Swayze, Frank Trocchiano, Ferdie Trouille, Charles Ventrella, Hector Waguespack.

change. Likewise they expressed the serious doubt that approval could be obtained on an extension of the season until January 31st.

The federal officials reported that there was no chance for an increase in the bag limit on wood ducks until their records showed a much greater increase in the wood duck population. Likewise, they stated that Louisiana and Florida were the only places that reported any increase on snipe, and that until the continental snipe population was greatly increased, there would not be an open season on them.

There were indications from the discussions with the federal authorities that while a slight increase might be made in bag limit on doves, they were opposed to any changes in shooting dates, and particularly to any opening of the season prior to October 1st.

All regulations for migratory waterfowl are fixed by federal authorities. They obtain recommendations from wild life and game departments of the various states, but check these recommendations with their own findings from their field men and investigations.

Tentative plans were made for a fall meeting of the Southeastern Association of Game Commissioners to be held at Lake Mattamuskeet in North Carolina.

Oyster Planting Projects Get Under Way

Work was started May 1st on a series of oyster propagation projects, which includes the planting of 100,000 barrels of oyster shells as cultch for oysters, and the dredging of dead shell oyster reefs.

W. K. Renleaux, New Orleans, was awarded the contract for furnishing necessary oyster shells, labor, boats, equipment, fuel and other supplies for planting as cultch for the propagation of oysters, at least 60,000 barrels of shells in the following locations:

Bay du Chene, Jefferson Parish, 20,000 barrels; Lake Tambour in Terrebonne Parish, 20,000 barrels; Sister Lake (State Seed Oyster Reservation), Terrebonne Parish, 20,000 barrels.

The shells are to be planted at the rate of 200 barrels per acre. The work started on May 1st in Bay du Chene, under the supervision of James N. McConnell, director of the Oysters and Waterbottoms Division. This planting project is to be completed by June 15. Reuleaux's bid was the lowest, at 36¢ per barrel of oy-

ster shells. Total amount of the contract on this project is \$21,600.

The Southern Shell Fish Company, Inc., of Biloxi, Mississippi, was awarded the contract for dredging dead shell oyster reefs in St. Bernard and Plaquemines Parish. This firm will furnish four power boats and two standard 17-tooth power dredges. This project was scheduled to begin on May 12 and will require approximately 45 working days to complete. The amount of the contract for this project totals \$8,919.00.

The Teche-Vermilion Navigation Company, Lafayette, was awarded the contract for planting 40,000 barrels of oyster shells in Bay Boudreaux in St. Bernard Parish in the vicinity of Little Raccoon Island and Big Raccoon Island. This project was scheduled to begin also on May 12 and is to be completed June 12. This company's bid was the lowest at 44¢ per barrel, and the total amount of the project is \$17,600.

All contracts were awarded by the Department of Finance after formal advertisement of bids. Total amount of the three projects for this oyster development work is \$48,119. Funds for this program are made possible by Act 27 of the 1944 Legislature which provided that royalties on shells be dedicated to the Department for oyster propagation work.

Department Requests Spillway Closing

Acting on behalf of trappers and fishermen, the Department of Wild Life and Fisheries through Commissioner John G. Appel, has formally requested the U. S. Engineers to close the Bonnet Carre Spillway as soon as possible.

Commissioner Appel requested this action after a survey by Division heads revealed that excessive fresh water from the Spillway had caused considerable damage to oyster reefs in the Mississippi sound, curtailed trawling operations, and damaged muskrat nests in the northern portion of the Louisiana marsh area. To avert further serious damage to these fisheries and muskrat breeding areas, Commissioner Appel conferred with U. S. Engineers with reference to an early closing of the spillway.

The Commissioner stated that he was informed by Colonel George H. Hudson of the U. S. Engineers that gradual closing of the spillway would probably be possible around or before the middle of May.

Scientific Experiments Prove Fertility And Amount of Water Are Determining Factors of Good or Poor Fishing

By W. L. Baten, Jr.,
President Webster Parish
Wildlife Association

There has been a very sharp difference of opinions among the fishermen of the state on the necessity and the value of the law which closes the streams of the state to fishing during two months of the year. Most of the opinions expressed are based on the personal experiences of the fisherman, which in most cases is limited to the area in which he has fished. An opinion on any subject is only as valuable as the experience and facts on which the opinion is based. Most of the opinions which have been expressed have not been based on scientific investigations by men who are not trying to prove their point but who first get the facts and then interpret these facts.

In April of 1942, the Alabama Experience Station published Bulletin No. 254 on the management of Farm Fish Ponds by H. S. Swingle and E. V. Smith. The facts which these men developed and published knocked a good many of our previous ideas into a cocked hat. Since the publication of this bulletin, experiments of a similar nature, have been carried on in Texas, Arkansas, Louisiana, Illinois, and quite a number of other states. These experiments have confirmed the work originally reported by Swingle and Smith.

The investigations of Swingle and Smith demonstrate that the production of fish is no different from the production of beef, pork or any other class of livestock. We can grow animals only to the extent that we have the right kind and amount of feed for them. For example, let's compare a fish pond with a pasture. Suppose we had a pasture that would carry 10 head of beef cows the year round and all these cows could raise a calf up to 450 lbs. during the year. This would give us a production of 4,500 lbs. of beef from that acreage of pasture. Now a fish pond is just as definitely limited in its ability to produce fish as a pasture is in its ability to produce pounds of beef. In both instances the production is limited by the feed which is available, therefore, the first fundamental that we should recognize is that we can overstock our fish ponds and fishing streams just as easily as we can overstock our pastures.

I am going to briefly review 6 of the 8 points, which the writers of Bulletin No. 254 brought out.

1. The Weight of Fish Which an Unfertilized Pond Can Support Is Dependent Upon the Fertility of the Ponds Watershed. They found that unfertilized ponds in Alabama produce from 40 to 200 pounds of fish per acre of water. They found that the lowest production of fish occurred in poor land areas and the highest production in the best land areas. They found that the reason for this was that all the material (nitrogen, phosphorus, potassium and other elements) in the water which causes the growth of fish food are the same as those of field crops such as cotton and corn. In the areas in Alabama (and the same is true in Louisiana) where the land is too poor to grow good farm crops without fertilization, you can not expect a good growth of fish in your ponds until these ponds are fertilized.

2. The Productivity of a Pond Can Be Increased by the Use of Fertilizers. Fish feed largely on microscopic water-animals, water-insects, and small fish; most of these small animals, in turn, use microscopic plants either directly or indirectly for food. These plants are so small that they can not be seen unless highly magnified; they are present in most waters but the number is so small that they are not noticed. When a pond is fertilized these plants grow and multiply so rapidly that they cause the water to appear green and sometimes brown. Thus, we find the reason for fertilizing a pond and a pasture are essentially the same; both are fertilized to produce more plants to produce more animals. They found in Alabama that even the lowest pond production could be raised to 500 to 600 pounds of fish per acre. Thus, we see it was the question of food in the ponds and not the location of the pond.

3. Fish Grow Rapidly If They Have Plenty of Food—But Very Slow If Food Is Scarce. The investigators found that where food was plentiful in ponds in Auburn, Alabama that a week-old bluegill bream hatched in May 1938 and weighing 0.007 ounces, reached the maximum weight of 6 ounces in May 1939 when it was 1 year old. They also found that this extremely rapid growth was not desirable as you could not produce

the maximum total weight of fish in a pond which was understocked. They found that the average growth of bluegill in Alabama ponds and streams is 4 ounces in 4 years. Compare this with the growth of 6 ounces made in 1 year where the fish have an adequate food supply. They also found that where they placed a week-old bass hatched May 1941 weighing 0.0008 lbs., that in October 1941 this 6 month old bass weighed 1 lb. The investigation found that the average growth of bass in Alabama ponds and streams is 1 lb. in 3 years. The growth of bass, like bluegill, is largely governed by the amount of food available.

4. Too Many Fish in a Pond Causes Undersized Fish and Poor Fishing. Since a pond can support only the fish for which food is available, it can support a large number of very small fish, or a small number of large fish in every acre of water. The first condition results in very poor fishing; the latter gives good fishing. If we have too many small fish they are not able to take the

This article was inadvertently omitted from last month's issue, when other comments on the closed fishing season were published.

hook, and even if you are able to catch them you do not have a fish of adequate size, whereas, if you had the number of fish in the water which the food supply could properly support, they would be of sufficient size when caught for eating purposes.

5. Within One Year After Stocking, a Pond is Usually Supporting the Maximum Weight of Fish for Which Food is Available. After the fish used in stocking a pond have spawned once, more small fish are present than can be adequately supported by the food which the pond is capable of producing. If the number of fish in a pond remain the same after the first year, an increase in the average size of these individuals is impossible unless the food supply is increased.

6. If the Number of Fish in a Pond is Reduced, the Average Size of Those Remaining Increases. If nothing is done to increase the food supply in a pond, increases in the sizes of the fish after the first year can only occur when the food available for each fish is increased by reducing the number of fish present. In one experiment the writers of this Bulletin used 3 ponds which were

originally stocked with 6,500 bluegill per acre. Two and one-half years later the number of fish in one of these ponds was reduced to 3,200 per acre and in another to 1,300 per acre. It was found that where 6,500 were left per acre the average weight was 0.9 ounces, and that where they were reduced to 3,200 per acre the average weight was 1.83 ounces, and where 1,300 were left per acre the average weight was 3.7 ounces. Thus, we find that 6,500 fish in one pond weighed 5,550 lbs. and 3,200 fish in another pond weighed 5,760 lbs. and 1,300 fish in another pond weighed 4,810 lbs., and remember all these fish were the same age. It doesn't take very much time to decide in which of these ponds you would rather do your fishing.

In Bulletin No. 254 it was found that it was necessary to place Bass in these ponds to reduce the number of bluegill bream to the point where there would be sufficient food for the fish which were left, to grow to a fishing size.

In Miscellaneous Publication No. 528 published by the Soil Conservation Service of the United States Department of Agriculture on "The Techniques of Fishpond Management", we find on page 3 the statement that "Ponds ranging in size from ¼ acre to 70 acres have been successfully managed with the practices outlined in this publication."

On page 1 is this statement, "Successful fishpond management involves procedures that are contrary to most commonly accepted ideas on fish culture. It has been demonstrated, for example, that the greatest fish production can be obtained when ponds have no aquatic plants, are stocked with comparatively few kinds and numbers of fish, and are fertilized. The elimination of rooted plants is perhaps the most revolutionary of these practices, for it has long been thought these were essential to the production of fish. From this statement we can easily draw the conclusion that it might be advisable for us to revise some of our previous thinking and base our opinions on proven facts rather than personal opinions."

The law of Louisiana states that, the fish in the waters of Louisiana are the property of the state, and this has been interpreted to include the fish in privately owned ponds. I am not a lawyer, therefore, my opinion is not worth anything from the legal stand-point, but I am wondering

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Post-War Need For Louisiana . . .

More Instructors---More Conservation Education

By ISAAC D. CHAPMAN, Director
Education and Publicity Division

According to official figures released recently by the War Department and the Navy, there were a total of 139,424 men in the service from Louisiana as of December 31st last. This does not include some 35,000 men who had been discharged from service before that date.

As post-war reconversion draws nearer a reality, we in Louisiana are faced with the immediate problem of post-war employment and post-war future. Many of these men in service will seek and want new jobs. Most of them will have a new-born desire for hunting and fishing and a craving for relaxation in our great out-doors. Conservation authorities everywhere are agreed that there will be a tremendous increase after the war in the numbers of hunters and fishermen and are convinced that more fish and more game must be made available to meet the increased demand.

After the first World War, there was a 30 percent increase in the numbers of hunters and fishermen, and experts are predicting a 50 percent increase at the end of the present world-wide conflict.

That being an apparent accepted fact, it is evident that the spotlight will be on conservation, on natural and renewable resources, hunting and fishing. As important as these resources have been during the war, they will be all the more important in the post-war period.

And because conservation is a broad term, it covers a wide field of activities all closely related, and beyond question, one of the most important is **conservation education**.

There are many phases of conservation education. Not only are trained instructors and teachers needed to teach and "sell" conservation, but we also must have trained technicians, biologists, scientists and field men to replenish, restock and protect our natural and renewable resources. There is unlimited opportunity for jobs and for service in the field of conservation of wild life and fish resources, as well as in forestry and minerals.

Concerned by the conservation problem in their state, Ohio State University has recently announced a new curriculum in conservation—a four-year course of study leading to a bachelor of science

degree. Training is to be provided in basic sciences, with the intention of preparing men and women for teaching, research, planning, service and regulatory activities in all phases of conservation.

Ducks Unlimited has recently voted to support a national plan for vocational training for discharged war veterans. This plan calls for two-year courses of training in ten or more agricultural colleges throughout the country. Federal and state funds would finance the project, and the veterans would be trained for game managers, forest rangers, fish culturists, game wardens and similar vocations.

All of this is evidence enough that the **accent is on conservation education**. Our post-war planners must give more attention to that problem in Louisiana.

It is a sad but nevertheless true commentary that many of our teachers here in Louisiana who are called upon to teach conservation to the youngsters under their care are not qualified or equipped with sufficient knowledge of the subject to do an effective job. This is no reflection upon our educational system, as the same is true of teachers in many other states, but it does accentuate the fact that we are woefully weak in the field of **conservation education**.

Several years ago, at the instigation of the Educational Division of this Department, Louisiana State University and Southwest Louisiana Institute at Lafayette made available a special course in conservation education for school teachers during their summer schools. The purpose of the special course was to train teachers to teach conservation to their pupils. The response the first year was fair, but since that time, and because of the distractions of the war, only a handful have taken advantage of these special summer courses.

But even under normal circumstances, while such summer courses would serve a good purpose, and are a start in the right direction, they are by no means sufficient. Louisiana's colleges should offer and make available regular courses of study in various fields of conservation activity. Returning vet-

erans, under the GI Bill of Rights, could be provided with vocational training in these fields that will equip them for a future of service and unlimited opportunity. The need is so great and the opportunities so vast that jobs would readily be available for these trained men.

We require the services in Louisiana of trained men to increase our fish and game supply. Take for example, the program that has been under way in this state to increase the supply of Bob White quail. Department technicians determined sometime ago that lack of proper habitat was responsible for the diminishing Bob White population. They found that places where quail live, feed and breed had been destroyed by modern farming methods or flooding of marginal lands or other reasons and that the type of food plants that quail need to live on were not available in many former prolific quail areas.

The Department undertook a project to restore the habitat and the food and thereby restore the quail. The State was divided into four districts each under the supervision of a trained biologist and the work of planting and providing food for quail in these areas got under way. Much progress has been made and it is likely that after a period of time an enlarged and continued program of this type would eventually restore the quail population to what it used to be "in the good old days." However, the work on this important project has been brought to a stop because of lack of biologists. Of course, the war is responsible for this condition and after the war these biologists will be available, but there will be need for a great number of others.

What Louisiana has started out to do with its quail, can be done with muskrats, with deer, with wild turkeys, with fish, oysters and with other game and fisheries. There are unlimited possibilities.

Since 1926, Louisiana State University has had a School of Forestry. Graduates of that school have readily found jobs in the field of forestry in Louisiana and other states, because the demand for such trained per-

sonnel has always been more than the supply. We are informed that plans have been made to expand this School after the war to offer four-year courses in game management.

Some progress has been made in recent years in teaching conservation in our schools. A textbook on Louisiana's natural resources was made available about two years ago for pupils in the sixth and seventh grades. For the past two years groups of 4-H club boys and girls have been taken on field trips to study various phases of conservation activity. (A detailed report on this year's trip is told in pictures elsewhere in this issue.) We cite these facts to prove that continued added emphasis is being placed on conservation education in Louisiana and that we are headed in the right direction.

Realizing that school children provide a major field for conservation education, post-war educational plans of this Department are being drawn up to emphasize more activity among children of school age, boy and girl scout troops, etc. At least one or two specially trained persons will be assigned to organize junior conservation clubs, and to constantly work through teachers in stimulating interest in various phases of conservation. Programs, handbooks, and other literature will be provided for these groups.

Our motion picture division is now being rapidly enlarged to carry out our proposed expanded educational program. Starting out with only four subjects five years ago, our motion picture library today has forty different subjects and others are being added to provide visual education on a large scale for sportsmen's groups, women's organizations and school children.

One of our post-war projects contemplates the production of a comprehensive motion picture embracing all of Louisiana's resources which would be shown in theatres in all rural communities and in neighborhood theatres of the urban centers.

Another plan provides for educational programs and services to be made available to adult groups, hunting and fishing clubs and sportsmen organizations.

It has been said time and again that Louisiana's natural and

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POVERTY OR CONSERVATION

(Continued from Page 8)

wash from his land shortens the period of time that his soil can contribute to human needs.

Among modern current events I can think of no more excruciating mental agony than must have been suffered by those battered troops on Bataan Peninsula, scanning the skies to the east in vain for the relief planes which never were to arrive. This is very real to all of us, and tragic in our total helplessness to aid. I wish it were possible to dramatize for you the utter hopelessness of our situation on the North American continent when through failure to heed conservation warnings the pinch of organic shortages overtakes us all and from which no relief will be immediately available.

There was a time when population pressures on this continent were easily relieved by opening up new lands. Today there are no new frontiers. We must sit down where we are and plan our subsistence for the next ten thousand years on what we have left of our organic resources.

Today we are all busy with war. Everyone is employed, or should be. But tomorrow when the war is over we will be again confronted with the problem of peacetime employment. The trials of the late depression are too recent not to be remembered. But no one seems to take seriously the fact that our population has increased by leaps and bounds while our soils, grasslands, and forests have shrunk by at least ninety million acres within the last decade.

Did you ever play "Going to Jerusalem" or "Musical Chairs" where the guests at a party march to music around a double row of chairs which contains fewer seats than there are guests. When the music stops everyone tries to sit down. Because there are fewer seats than there are players somebody generally sprawls on the floor or is left standing without any chair. Then another chair is removed, the music and marching start again and so on, until there is but one chair left.

One hundred thirty million people in our country have been playing the same game, only we have been using land instead of chairs, and an amazing number of people already have no place to sit down. Then, if we add the distressed populations of Europe who must be fed, our little game

becomes serious business indeed because the exploitation of resources for war in the interest of national survival has exceeded any peace-time exploitation we have ever known. When the emergency is past there will be new bald spots on the surface of our continent where natural resources have been exhausted. Those bald spots will spell less food and more homeless men.

In our desperation, if we follow our customary pattern we will juggle the currency, reduce working hours and redistribute wealth; we may even try substituting Dictatorship for Democracy, but none of them nor all of them put together will restore the soils we have so wastefully depleted. Such inventions of the sociologists and economic doctors will be of no avail in reforesting our cut-over timberlands. They cannot reclothe the Dust Bowls with grass by social reform, neither can they bring back the eroded topsoil from the Mississippi Delta and put it on the abandoned farms. Once exhausted, there is no simple cure. Only a public aroused to the dangers can provide the prevention before it is too late.

Conservation becomes, then, not a matter of sentimental appreciation of the beauties of Nature. Neither is it an idle humor of cloistered scientists in their experimental laboratories. It is grim business for statesmen and government executives, and we won't have statesmen and executives who will know what it is all about until the teaching fraternity takes over the job of educating a new crop.

(To be concluded next month)

FISHING EXPERIMENTS

(Continued from Page 10)

if this law would hold up if it were brought before the State Courts. I do not see why the state has anymore right to the fish in a private fish pond which has been constructed, stocked, and fertilized, than they have to a farmer's crop of corn. In addition to this the law forces on the pond owners of this state a management plan which is in direct conflict with all the recommendations of the United States Department of Agriculture and the Experiment stations of most of the states.

It is true, that the figures and experiments which are given above were worked out on ponds and small lakes but would it not be reasonable to assume that management practices which are the

most successful on ponds and lakes of from ¼ to 70 acres will also apply to larger lakes and to running streams?

It is the almost universal experience with artificial lakes, such as Cane River Lake in Natchitoches Parish, that the best fishing in them is from the second to fifth and sixth years after they are constructed. An examination of these lakes after they begin to go down as fishing streams shows that they are full of rooted aquatic plants and that these plants utilize what fertility there is in the water and prevent the development of the small microscopic plants which govern the amount of fish a given area of water can develop. These lakes also get stocked with the larger and undesirable fish and they use a large part of what food is available.

Our running streams suffer from two handicaps as fish producing areas. The first is the lack of fertility of their waters due to the removal of a large part of our timber and the second is the lack of an adequate amount of water in these streams during certain seasons of the year.

Again let me point out that growing fish is like growing cattle. It is not how much grass you have in your pasture in May and June, the good growing months, which determines the number of cattle you can run on your farm, but the amount of grass you have in July and August, the poor grass months.

The amount of fish we can grow in our streams in Louisiana is governed by the fertility and amount of water in them at the low water season. All the laws the legislature passes cannot change these facts.

We have more fish in most of our streams now than they have fertility to support and our trouble is not lack of numbers of fish but lack of food in the water to grow these fish to a size where they can be utilized, and lack of sufficient water in our streams during the dry months of the year.

To those who would like to study these experiments, I would recommend Farmers Bulletin No. 1938, "Fish For Food From Farm Ponds", and Miscellaneous Publication No. 528, "Technique of Fishpond Management". Both of these can be obtained from the United States Department of Agriculture. Bulletin No. 254, Management of Farm Fish Ponds is published by the Alabama Experiment Station, Auburn, Ala.

Post-War Must—More Conservation Education

(Continued from Page 11)

renewable resources are its greatest assets. It has been said and repeated that these assets provide the State with unlimited opportunities for advancement and prosperity. The time is fast approaching when Louisiana should make greater use of these assets and opportunities. Whatever additional cost may be necessary will prove to be a safe and sound investment.

Ducks Unlimited Plans Enlarged Program for 1945

(Continued from Page 1)

money was raised for Ducks Unlimited as was raised during the first six years. He pointed out that the officers and trustees not only give their time free to this cause, but also contribute thousands of dollars and pay their own traveling expenses.

Excerpts of President Glassell's annual address follows:

"Don't expect too much of Ducks Unlimited. If we can keep the shooting as good as it has been, we will have done a grand job. What other game has had an increase in spite of the millions of hunters in our country? Look at the snipe, the quail, the dove, and all our upland game. Yet duck hunting is still good, and believe me, brother, if you spend two weeks in the dry prairie provinces of Canada, you will come out of them thoroughly convinced that we wouldn't be shooting ducks now if it weren't for the hundreds of lakes constructed there by Ducks Unlimited.

"Ducks Unlimited must raise around \$2,500,000 in the next few years to complete its building program."

GOWANLOCH HONORED

Dr. James Nelson Gowanloch, chief biologist of the Department of Wild Life and Fisheries, was elected vice-president of the New Orleans Academy of Sciences at its 92nd annual meeting held April 27 and 28th.

The New Orleans Academy of Sciences is the second oldest City Academy of Sciences in the United States. Dr. L. J. Pessin was elected president of the Academy, succeeding the late Robert Usher.